

FIG. 1 (PRIOR ART)

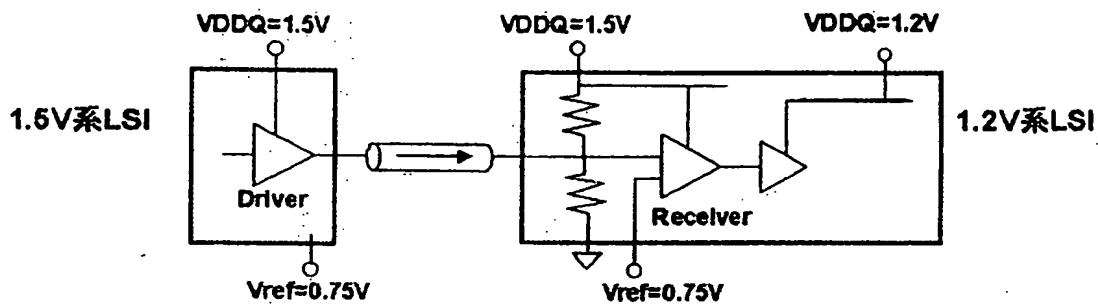


FIG. 2 (PRIOR ART)

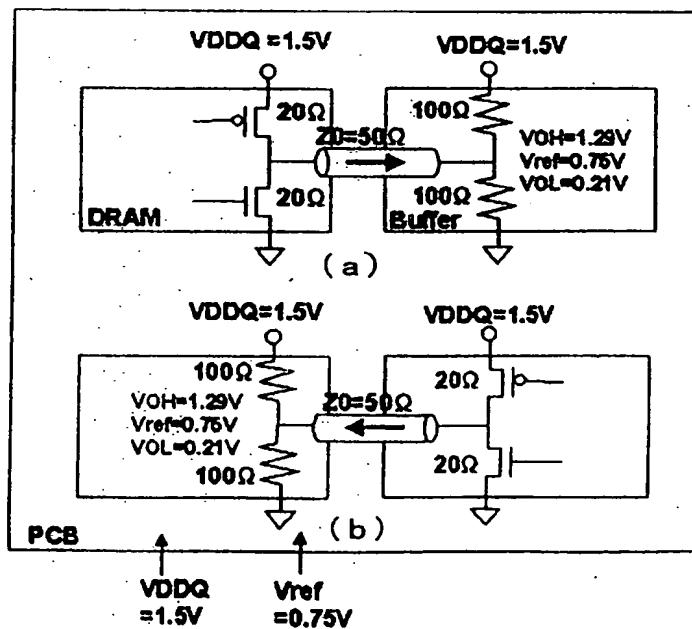


FIG. 3 (PRIOR ART)

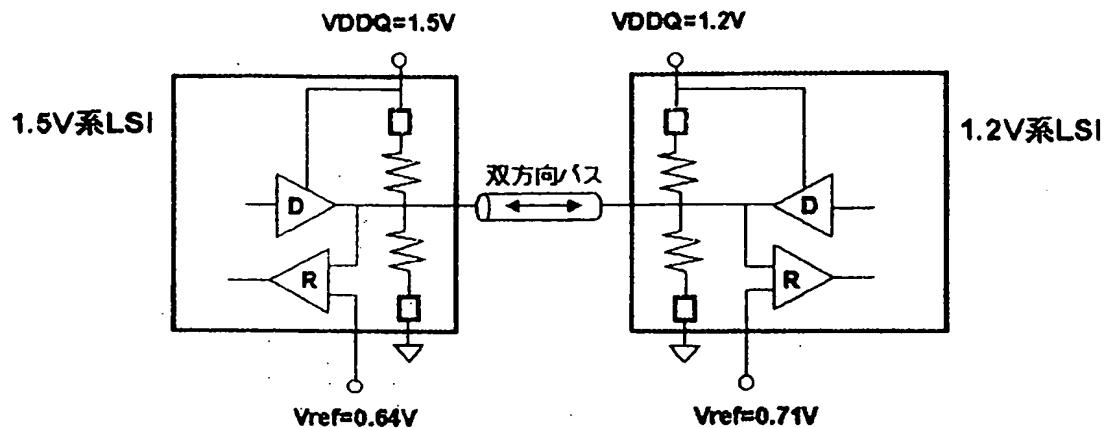


FIG. 4 (PRIOR ART)

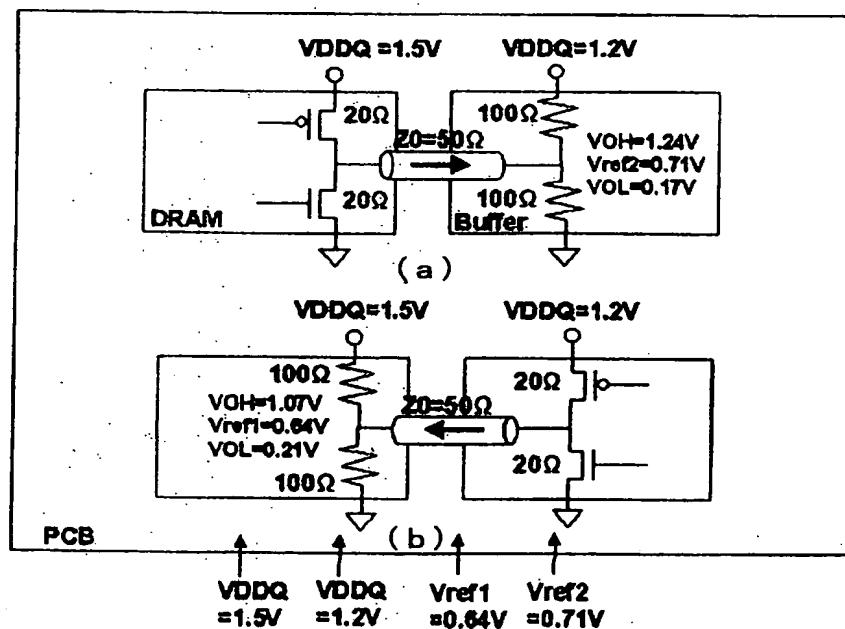


FIG. 5 (PRIOR ART)

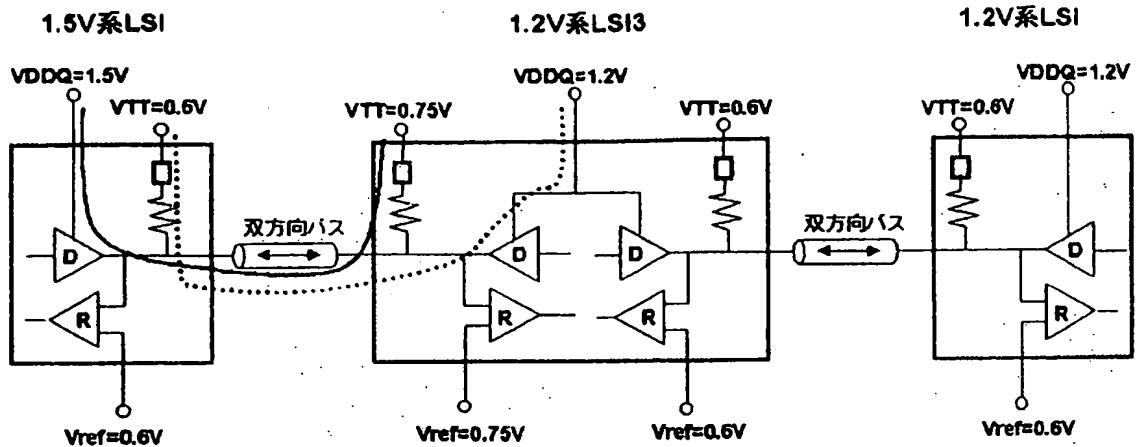


FIG. 6 (PRIOR ART)

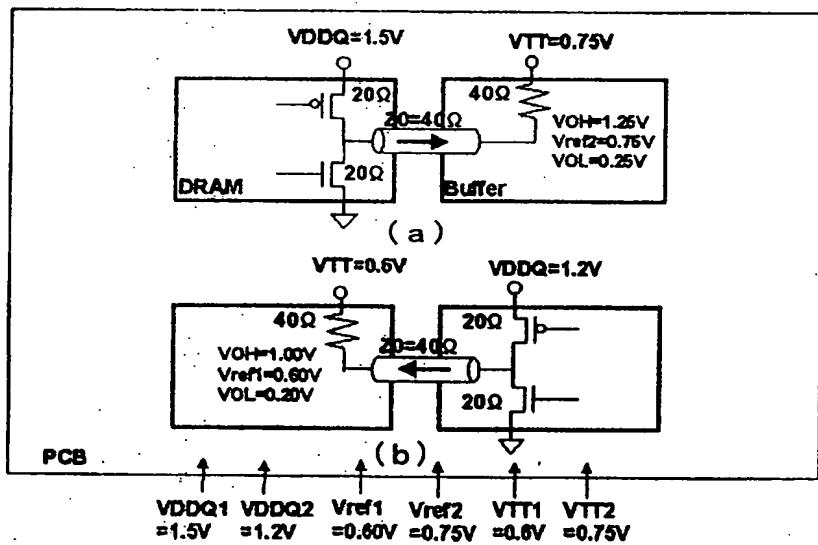


FIG. 7 (PRIOR ART)

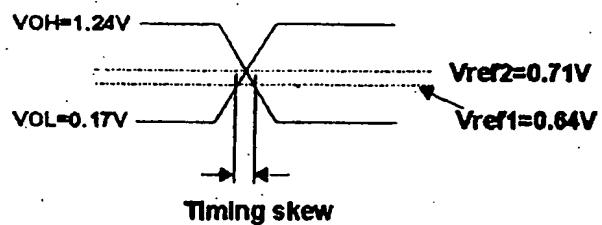
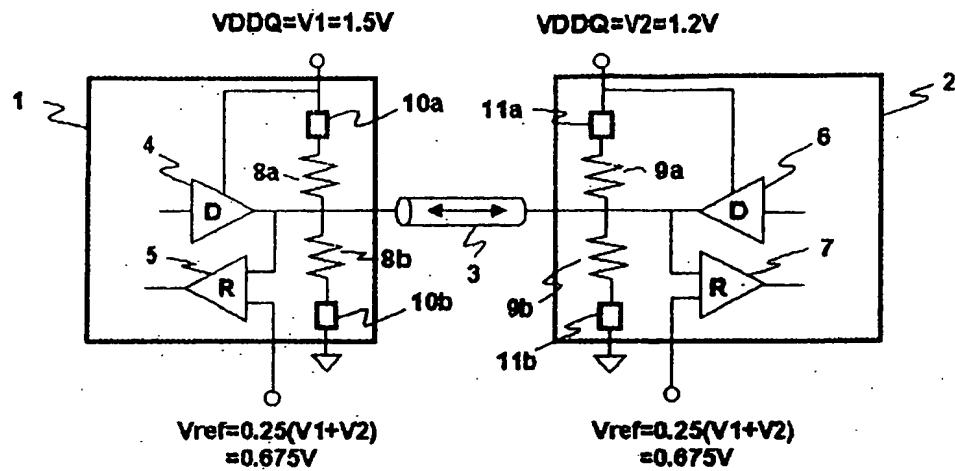
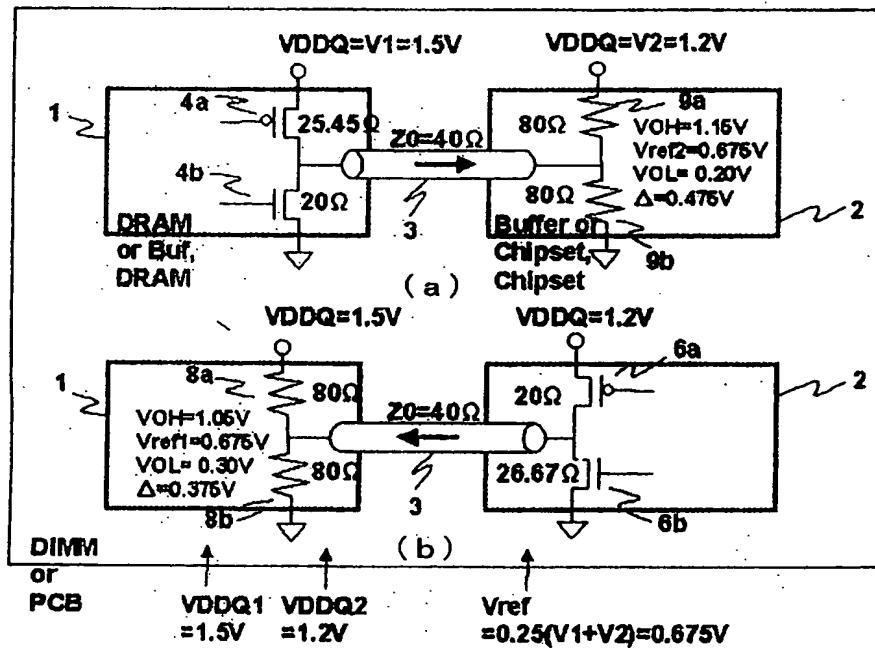


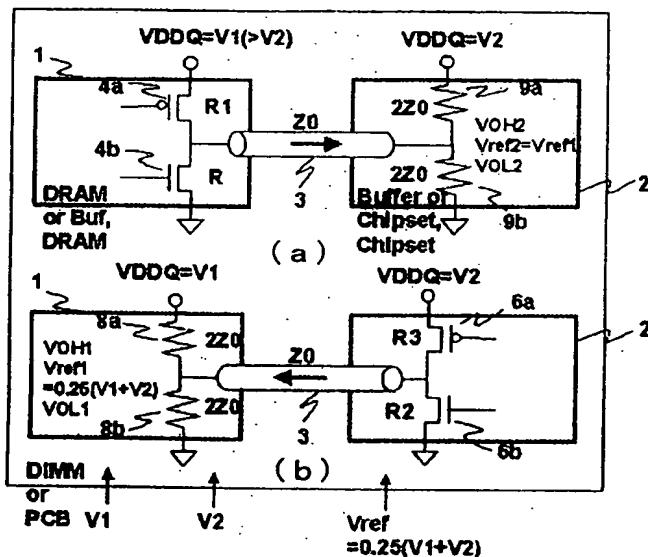
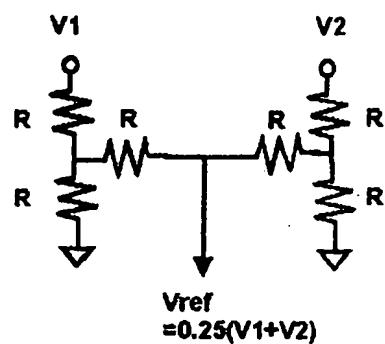
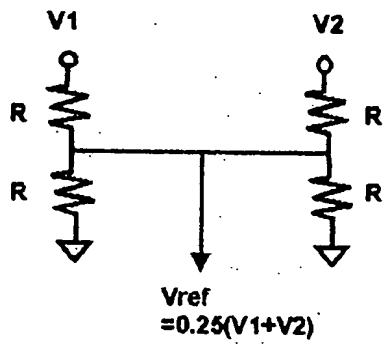
FIG. 8 (PRIOR ART)



F I G. 9



F I G. 10



$R \leq Z_0$

$$R_1 = Z_0 \frac{(V_2 - Z_0 - V_1 \cdot R - V_1 \cdot Z_0)}{(V_2 \cdot R - V_1 \cdot Z_0 - V_1 \cdot R)}$$

$$V_{OH2} = (V_1 - 0.5V_2)Z_0 / (R_1 + Z_0) + 0.5V_2$$

$$V_{OL2} = 0.5V_2 \cdot R / (Z_0 + R)$$

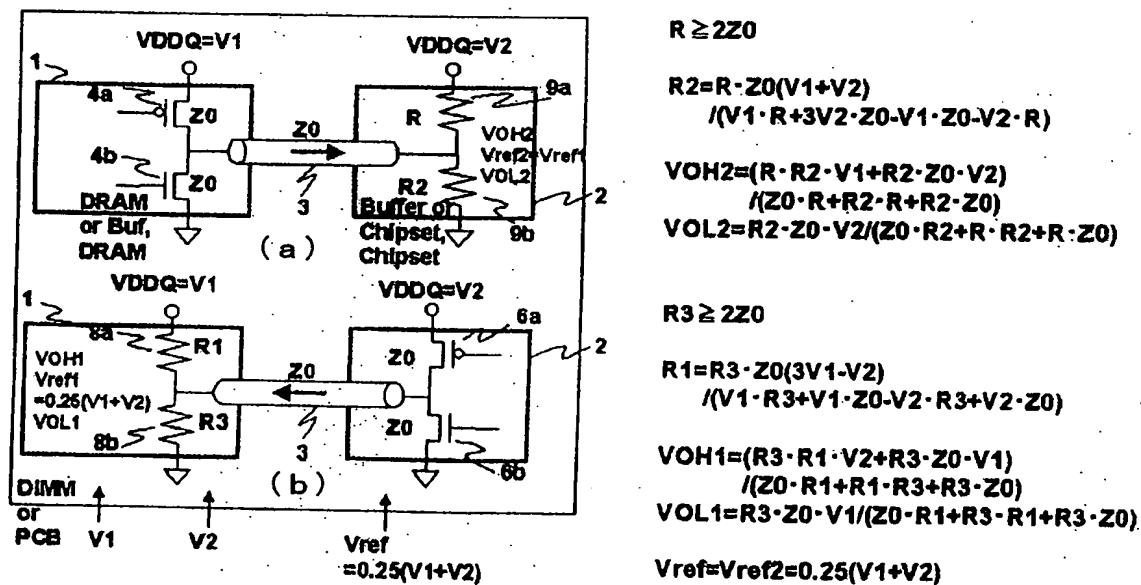
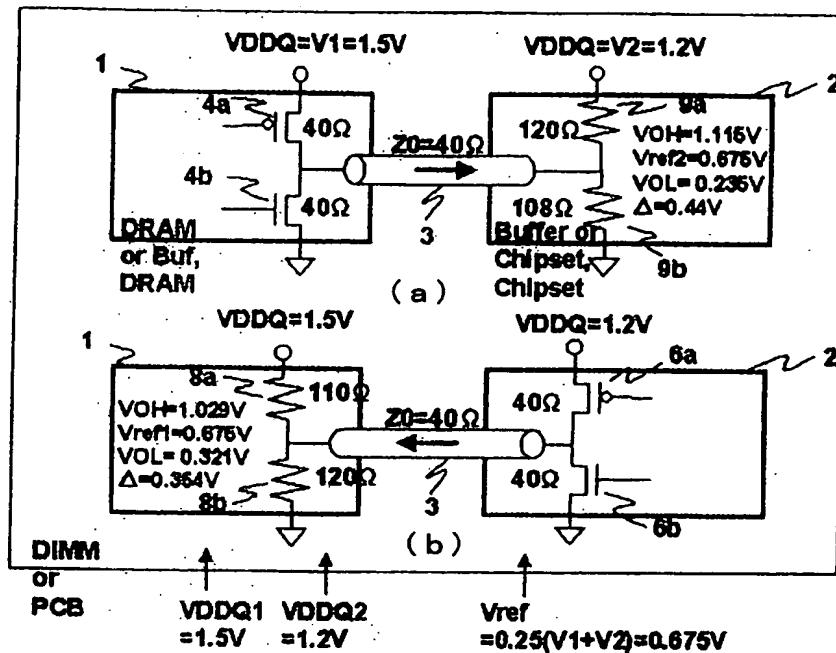
$R_3 \leq Z_0$

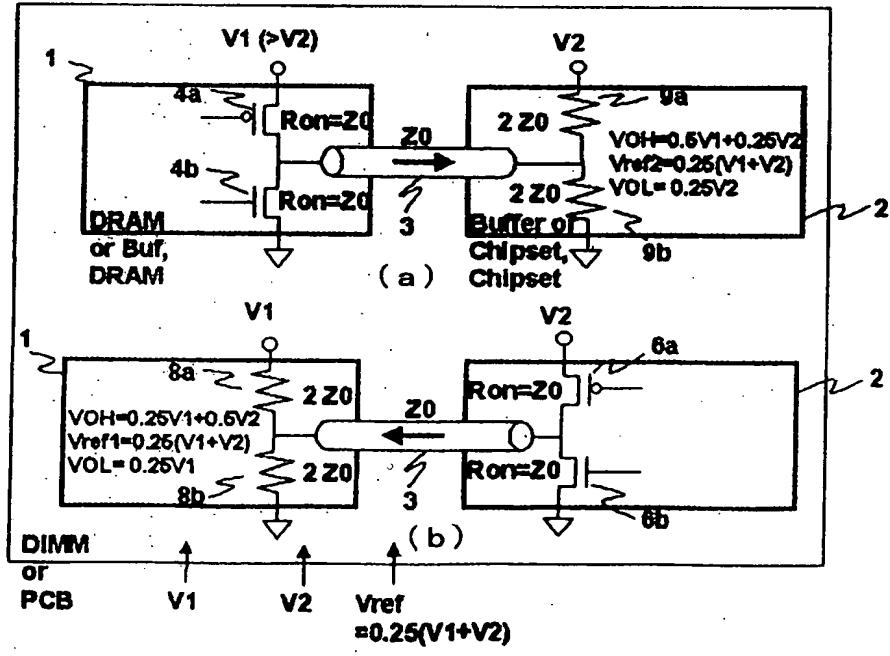
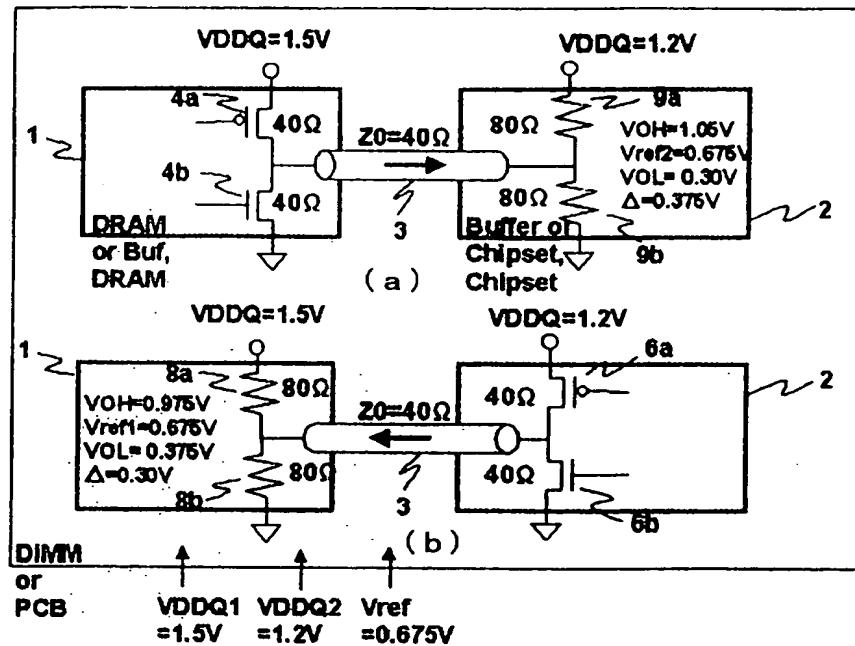
$$R_2 = Z_0 \frac{(V_1 \cdot Z_0 + V_2 \cdot R_3 - V_2 \cdot Z_0)}{(V_1 \cdot R_3 + V_2 \cdot Z_0 - V_2 \cdot R_3)}$$

$$V_{OH1} = (V_2 - 0.5V_1)Z_0 / (R_3 + Z_0) + 0.5V_1$$

$$V_{OL1} = 0.5V_1 \cdot R_2 / (R_2 + Z_0)$$

$$V_{ref} = V_{ref2} = 0.25(V_1 + V_2)$$





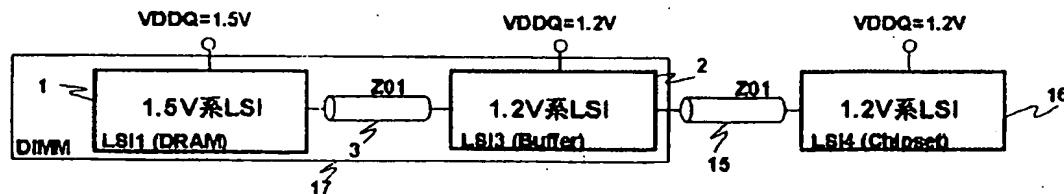


FIG. 17A

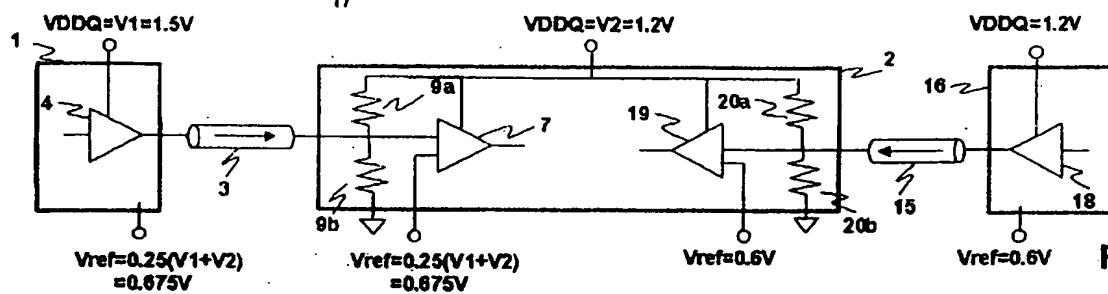


FIG. 17B

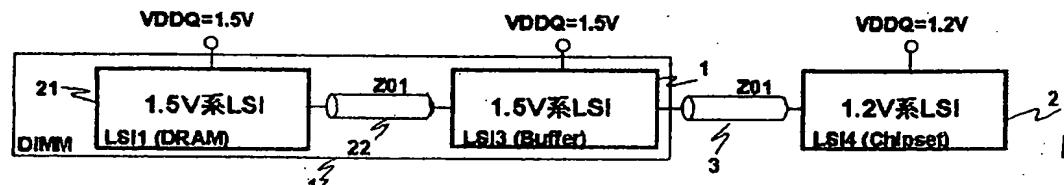


FIG. 18A

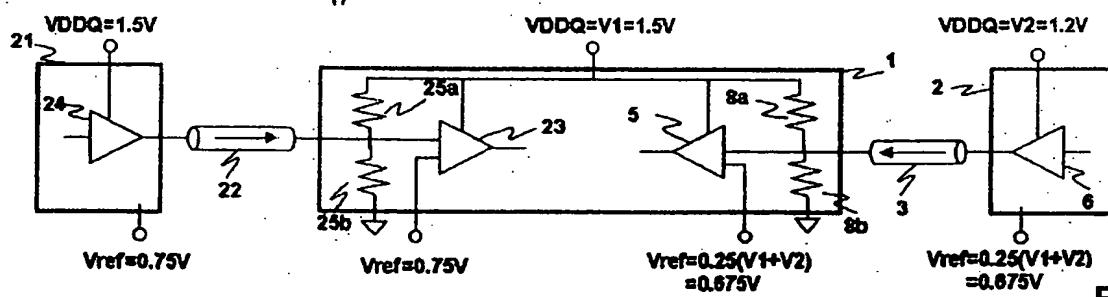
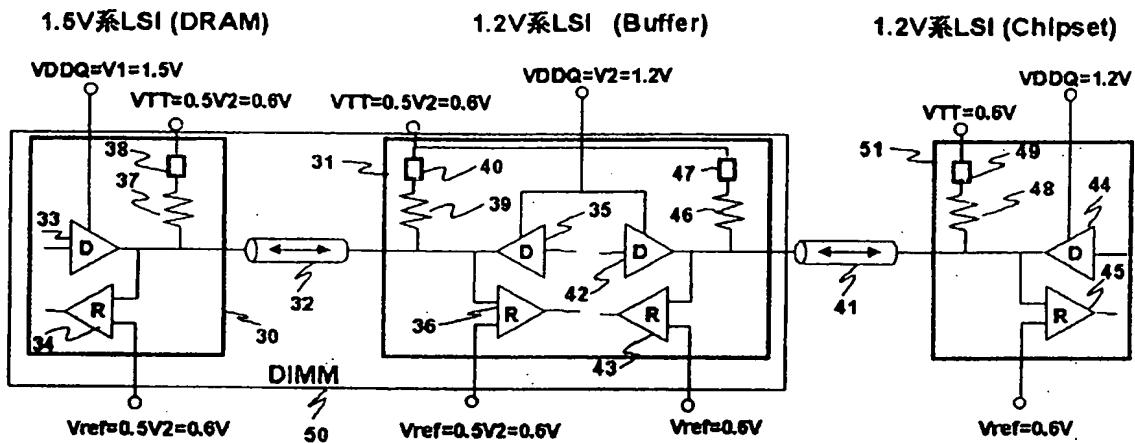
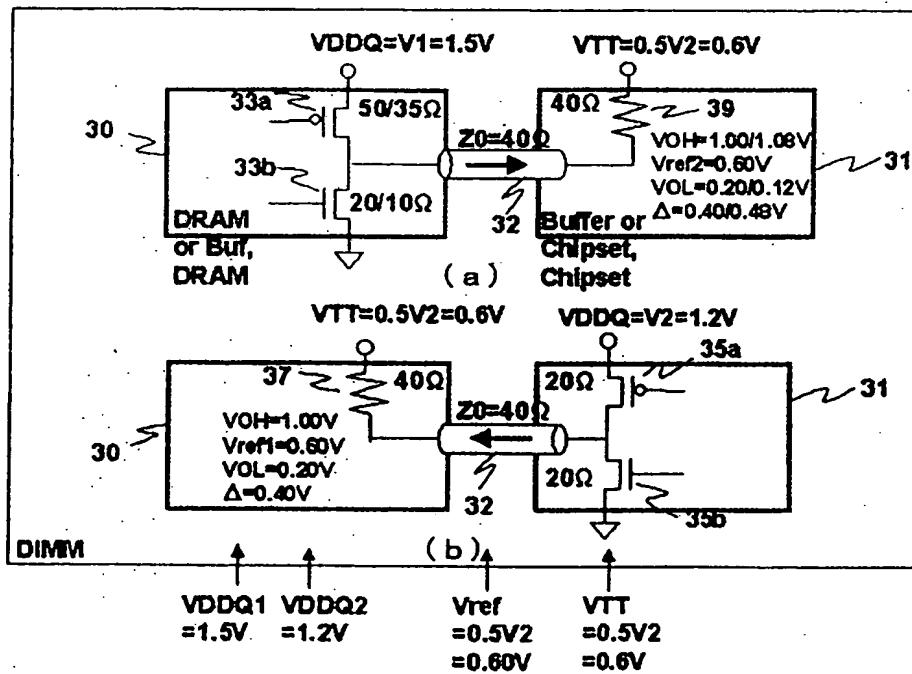


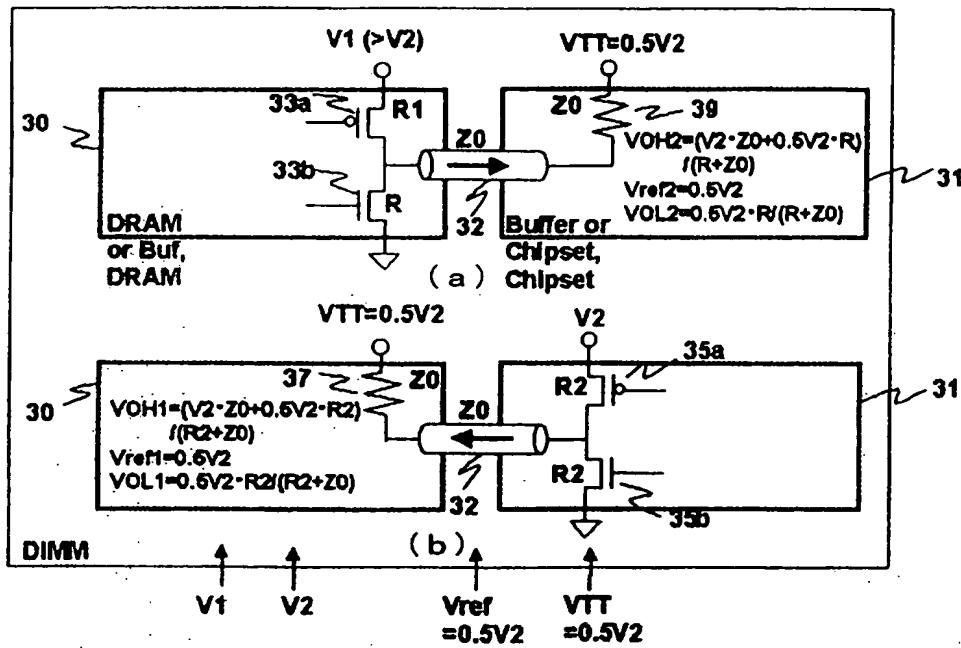
FIG. 18B



F I G. 19

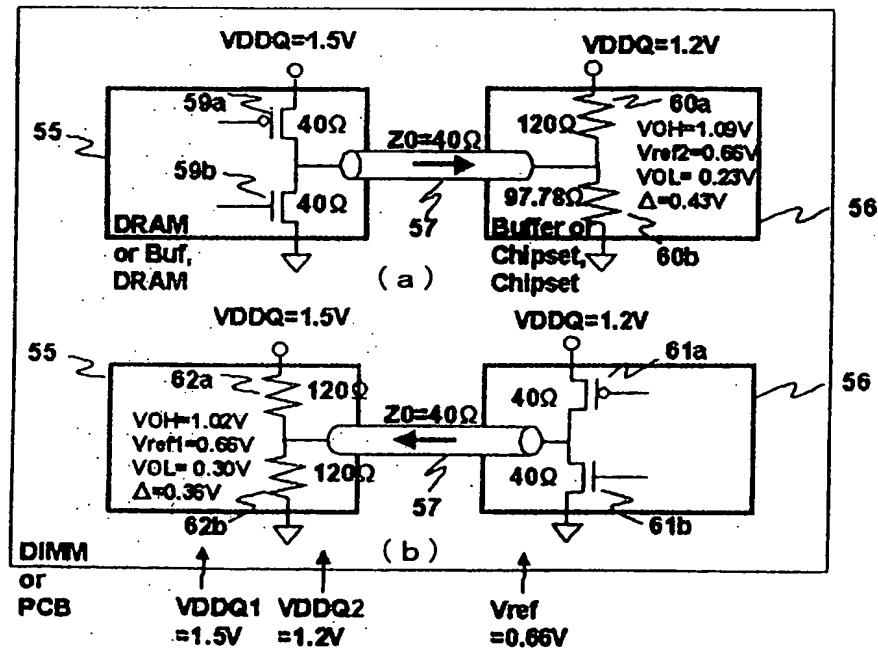


F I G. 20

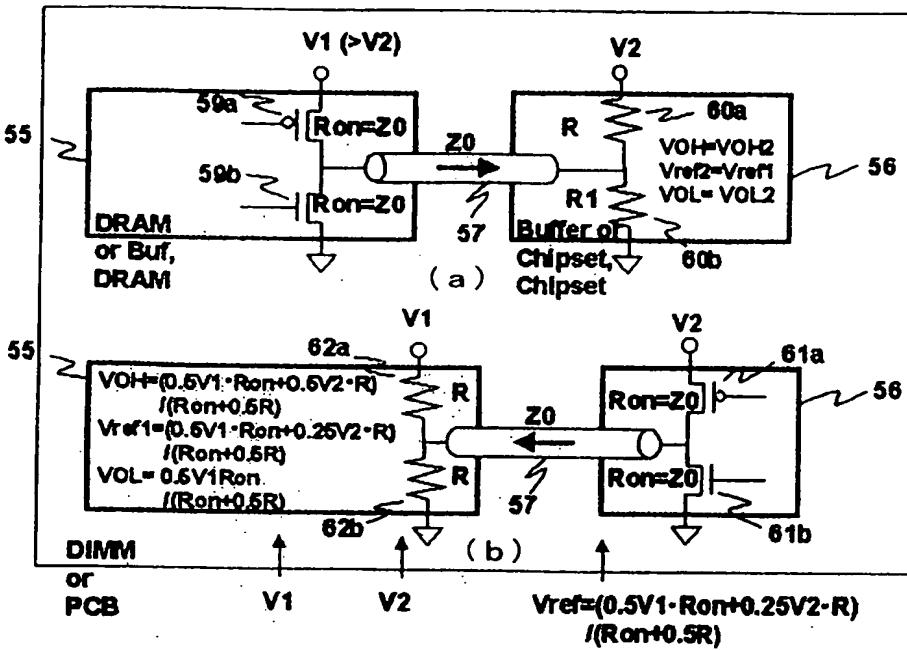


$$R1 = 2V1(R+Z0)/V2 - (2Z0+R)$$

F I G. 21



F I G. 22



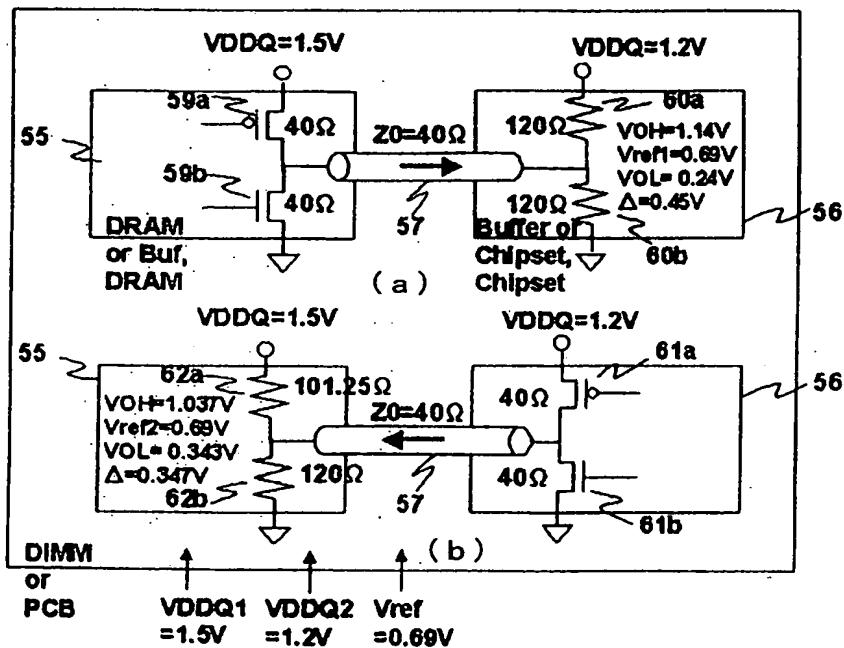
$$R1=2R \cdot R_{on}(V1 \cdot R_{on} + 0.5V2 \cdot R)$$

$$(V2 \cdot R \cdot R_{on} + R \cdot R \cdot V1 + 4R_{on} \cdot R_{on} \cdot R_{on} \cdot V2 \cdot R \cdot R \cdot V2 + 2R_{on} \cdot R_{on} \cdot V1)$$

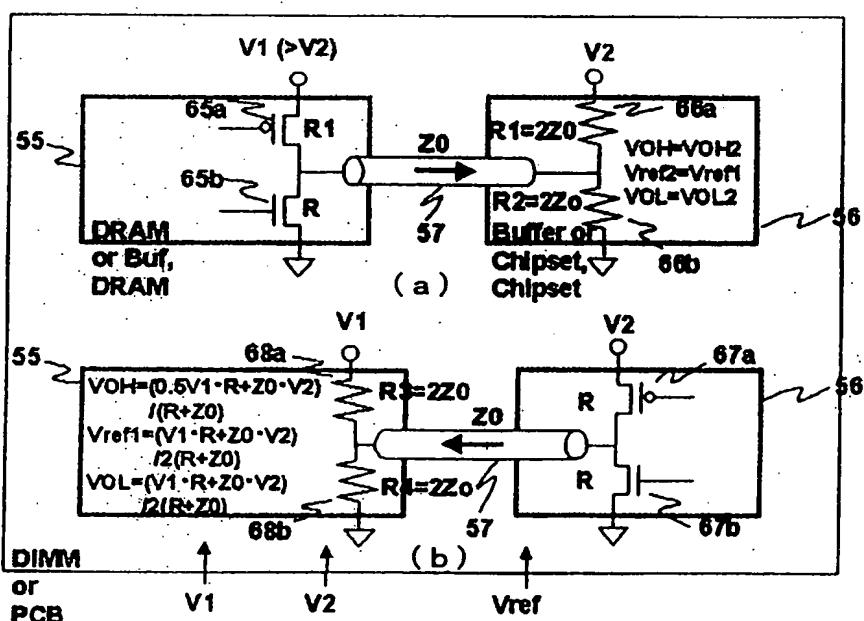
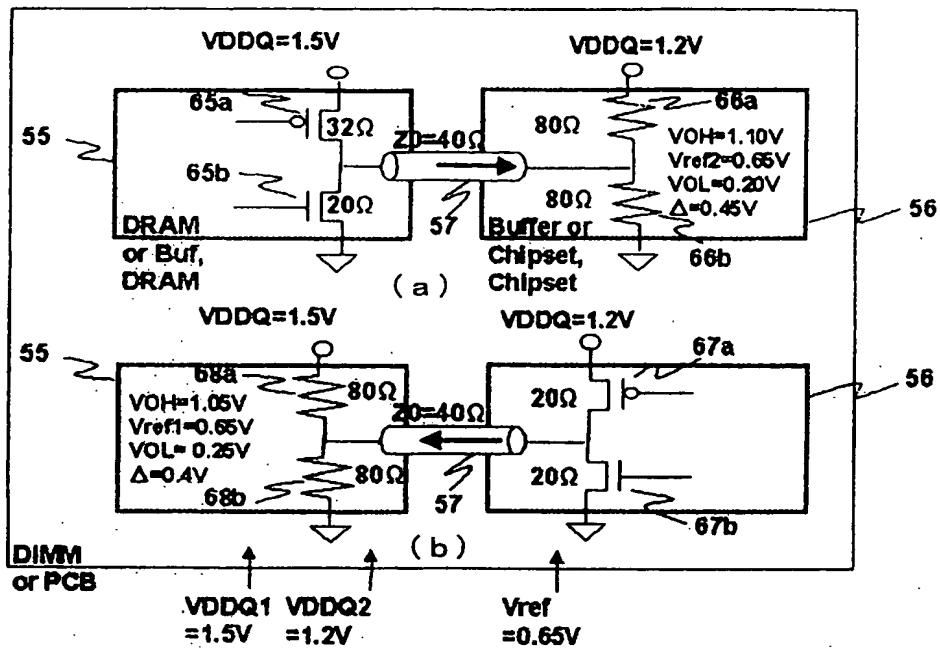
$$V_{OH2}=(R \cdot R1 \cdot V1 + R1 \cdot R_{on} \cdot V2) / (R \cdot R1 + R_{on} + R \cdot R_{on})$$

$$VOL2=R1 \cdot R_{on} \cdot V2 / (R \cdot R1 + R \cdot R_{on} + R1 \cdot R_{on})$$

F I G. 2 3

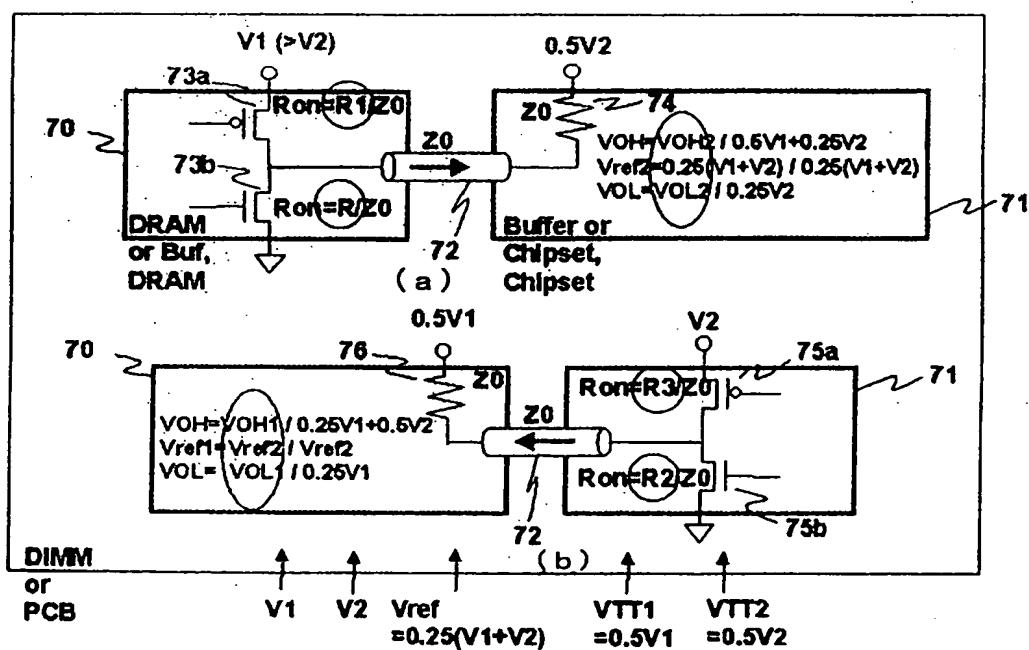
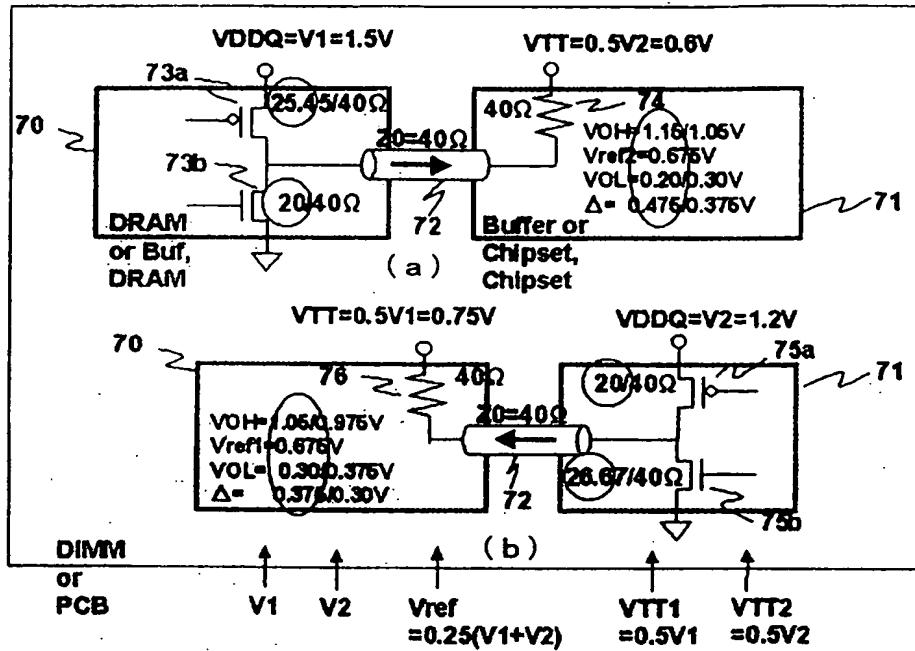


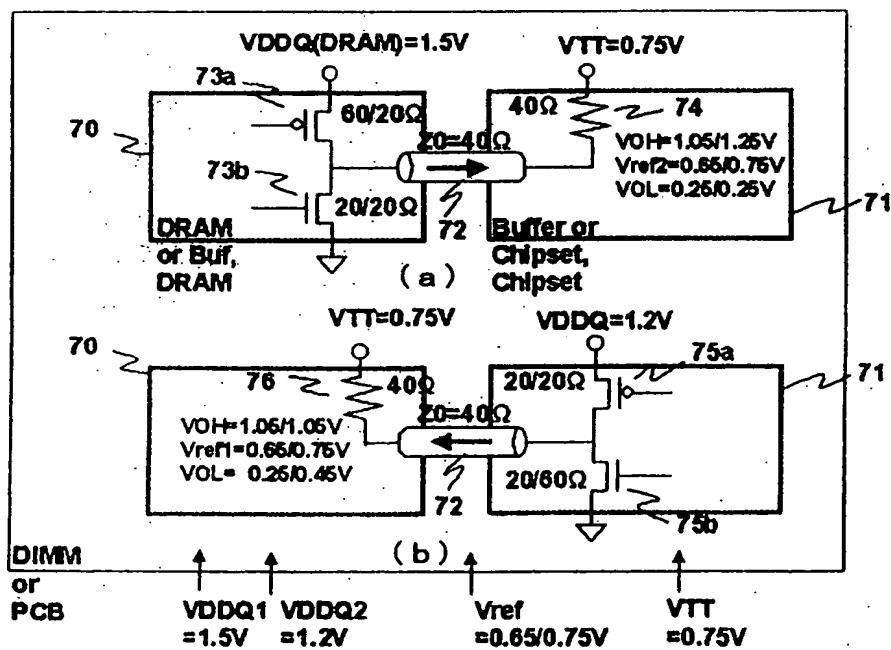
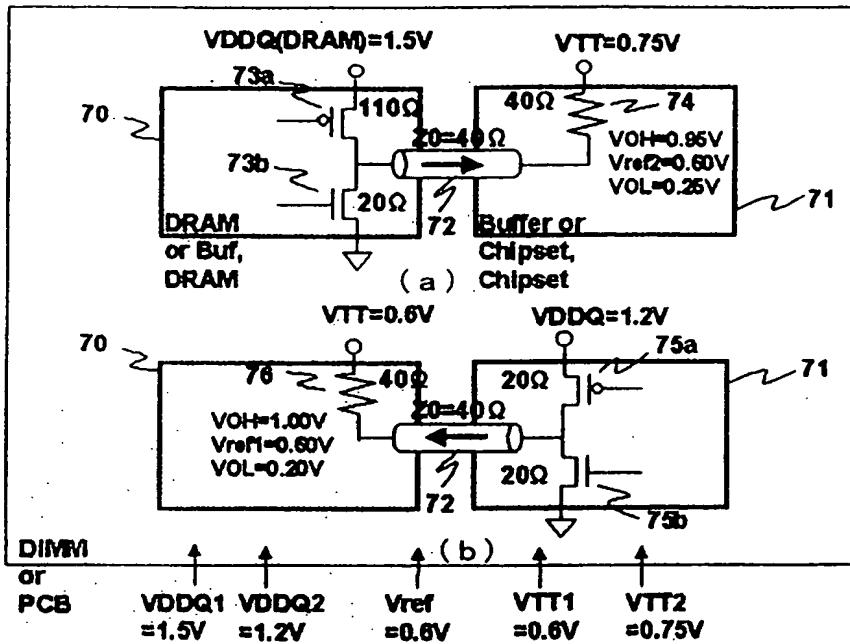
F I G. 2 4

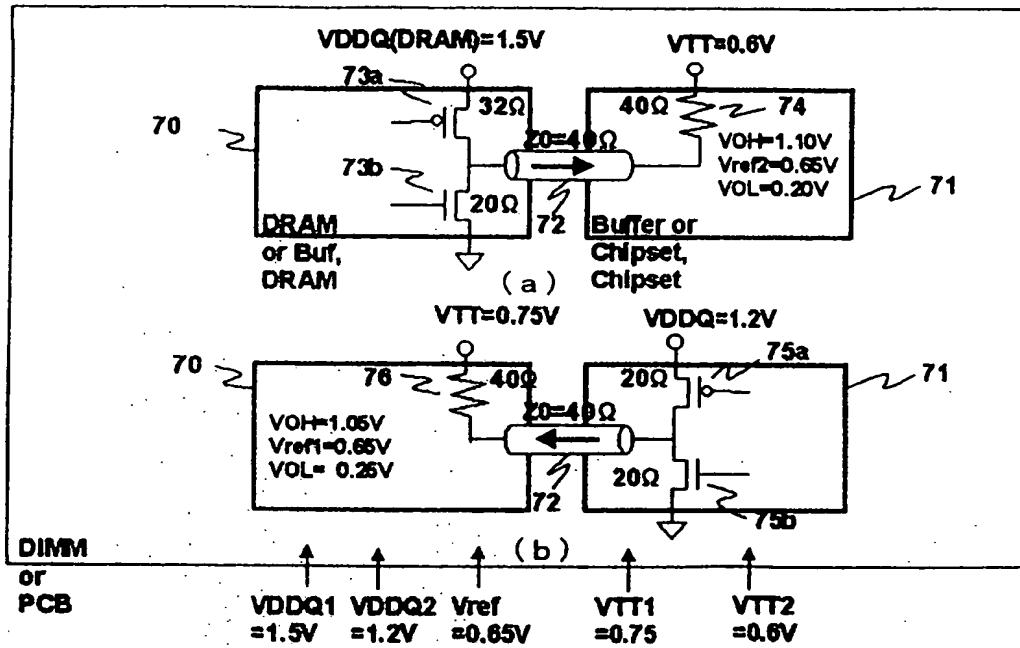


$$\begin{aligned}
 R1 &= (V1 \cdot Z0 \cdot Z0 \cdot V2 \cdot Z0 \cdot Z0 + 0.5V2 \cdot Z0 \cdot R) / (V1 \cdot R + 0.5V2 \cdot Z0 \cdot V2 \cdot R) \\
 VOH2 &= (0.5V2 \cdot R1 + V1 \cdot Z0) / (R1 + Z0) \\
 VOL2 &= 0.5V2 \cdot R / (R + Z0)
 \end{aligned}$$

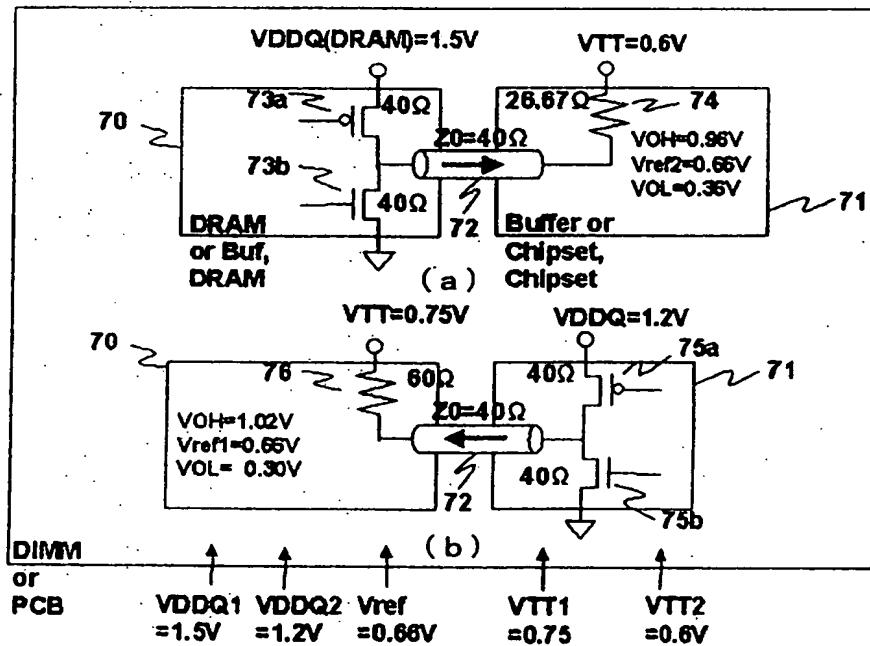
FIG. 26



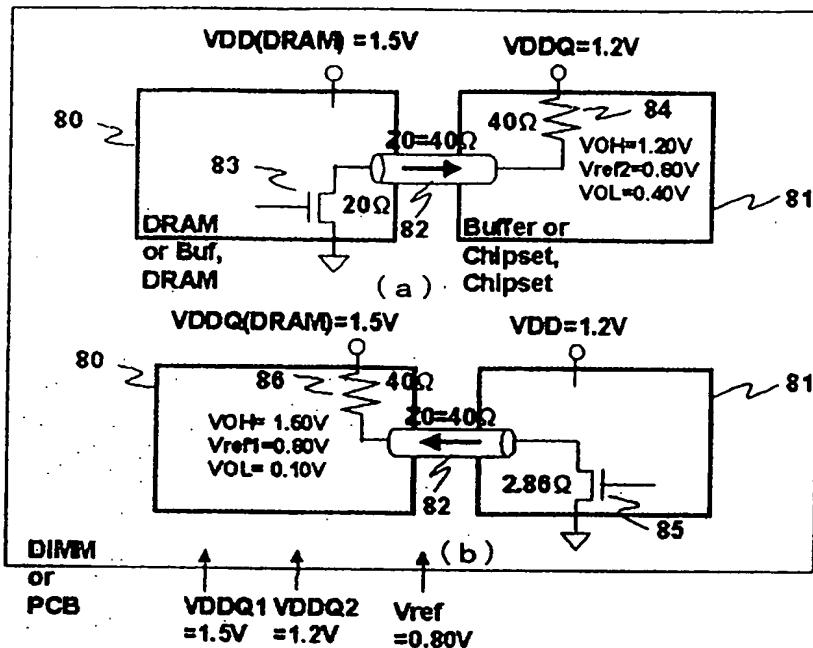




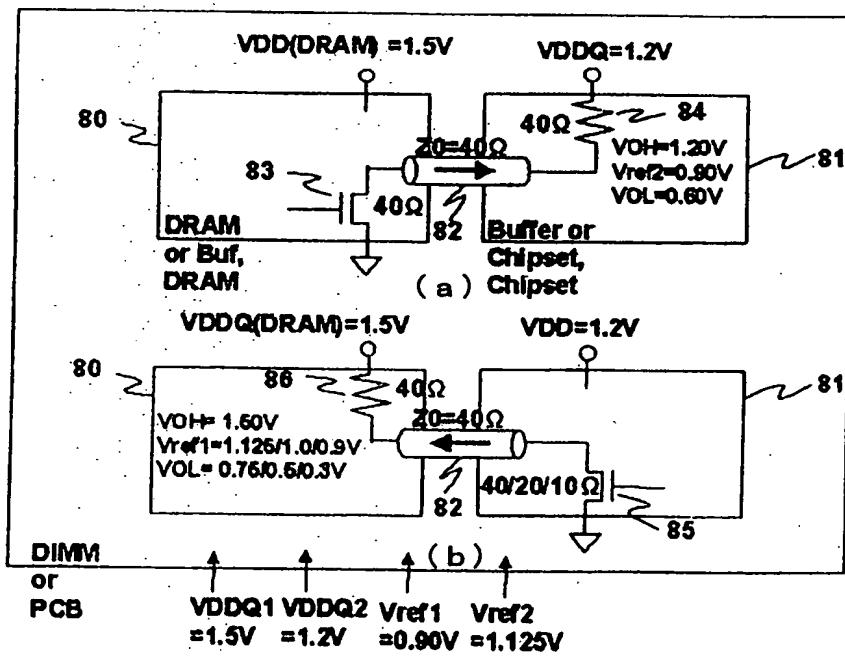
F I G. 3 1

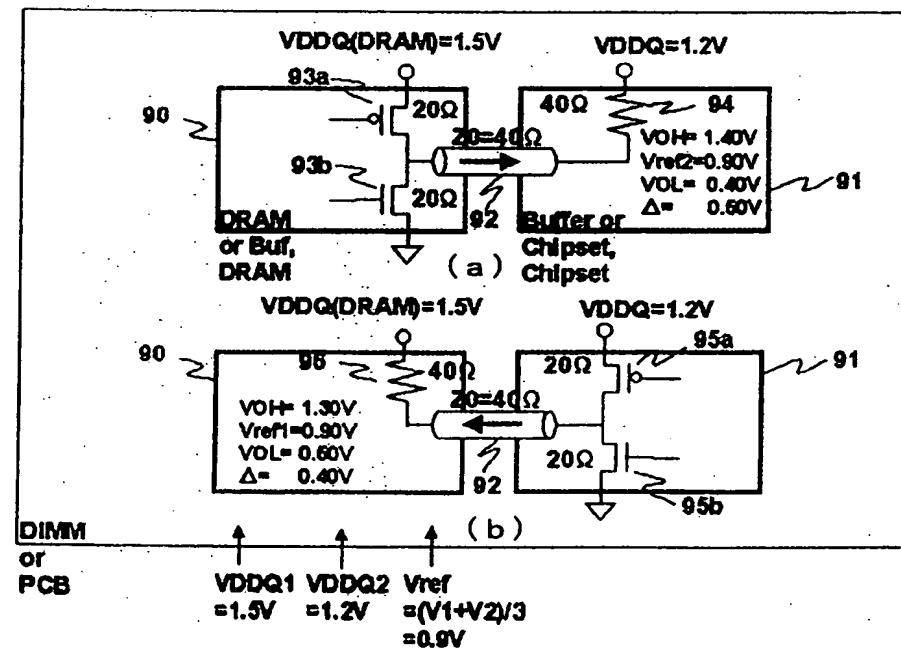
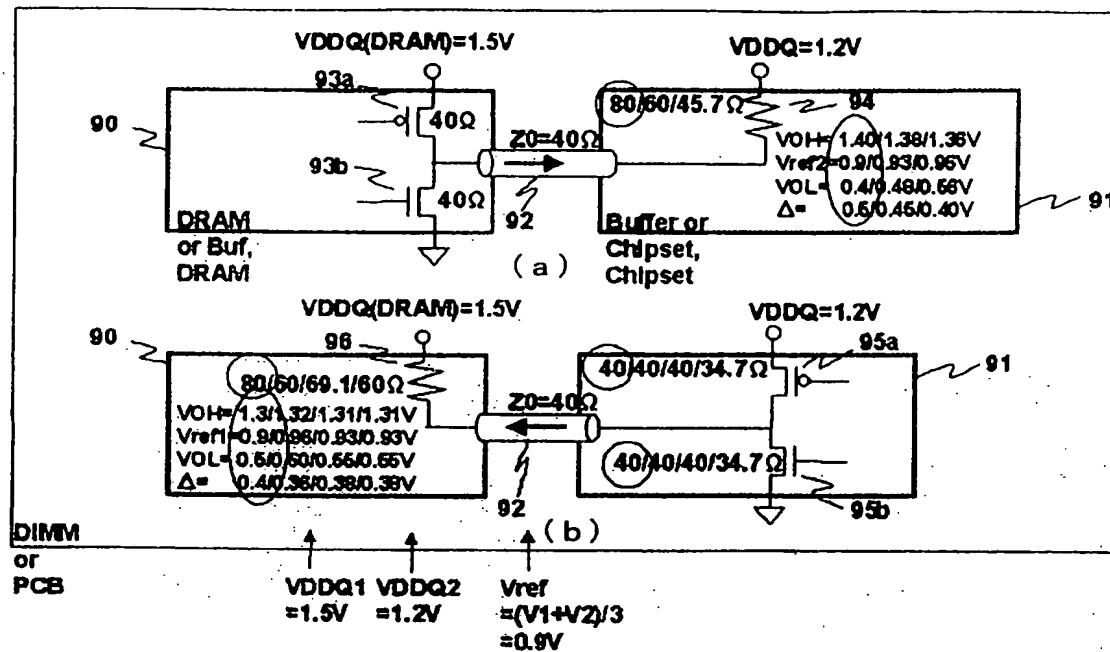


F I G. 3 2



F I G. 33





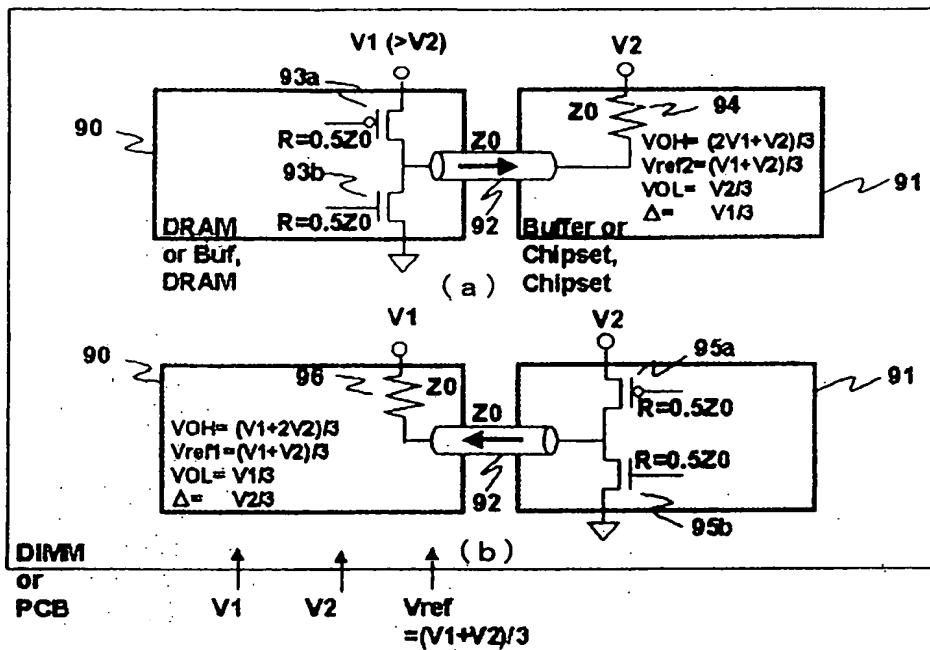


FIG. 37

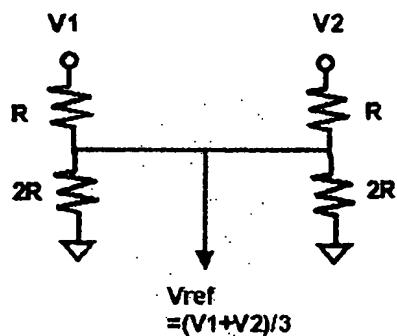


FIG. 38A

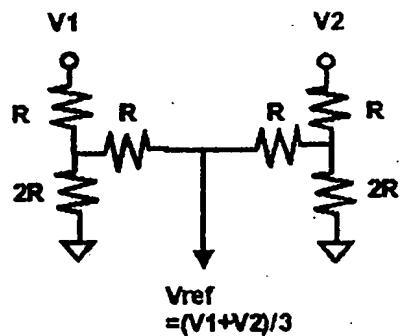
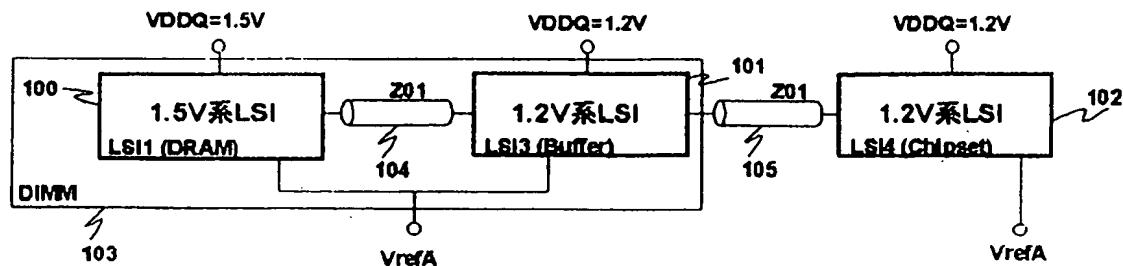
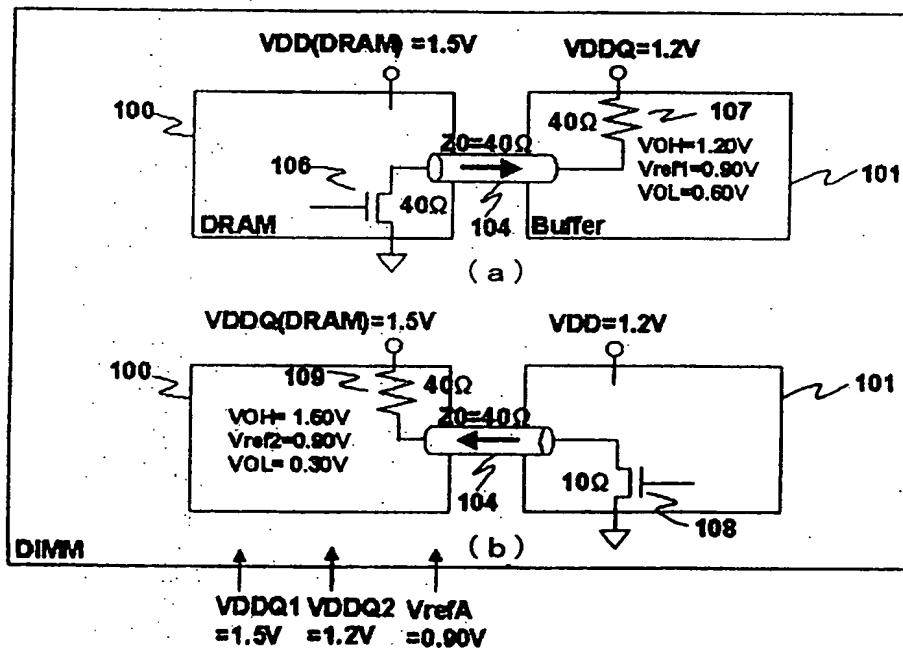


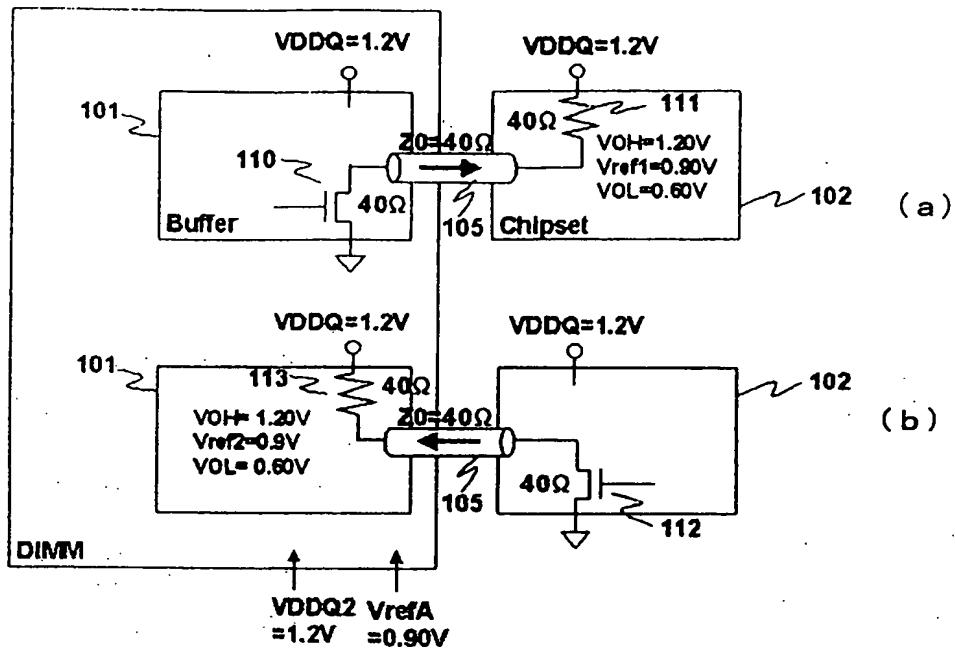
FIG. 38B



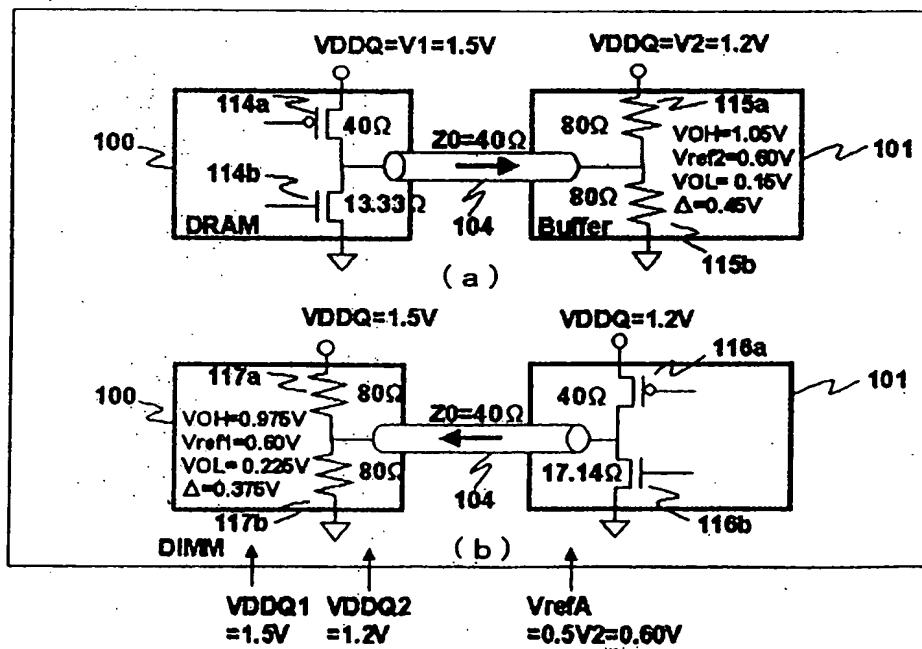
F I G. 39



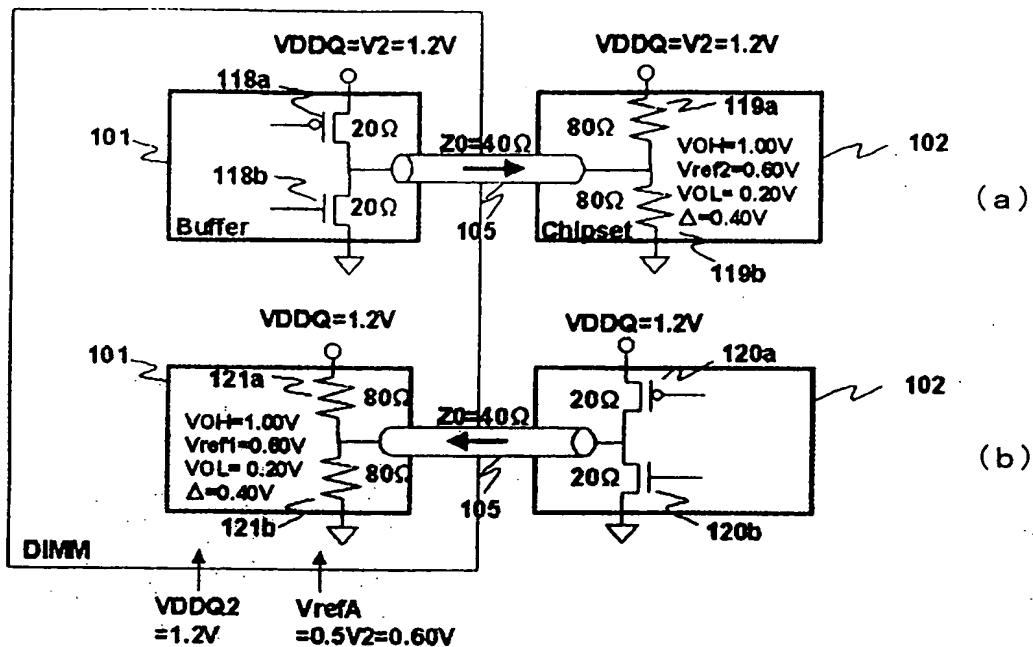
F I G. 40



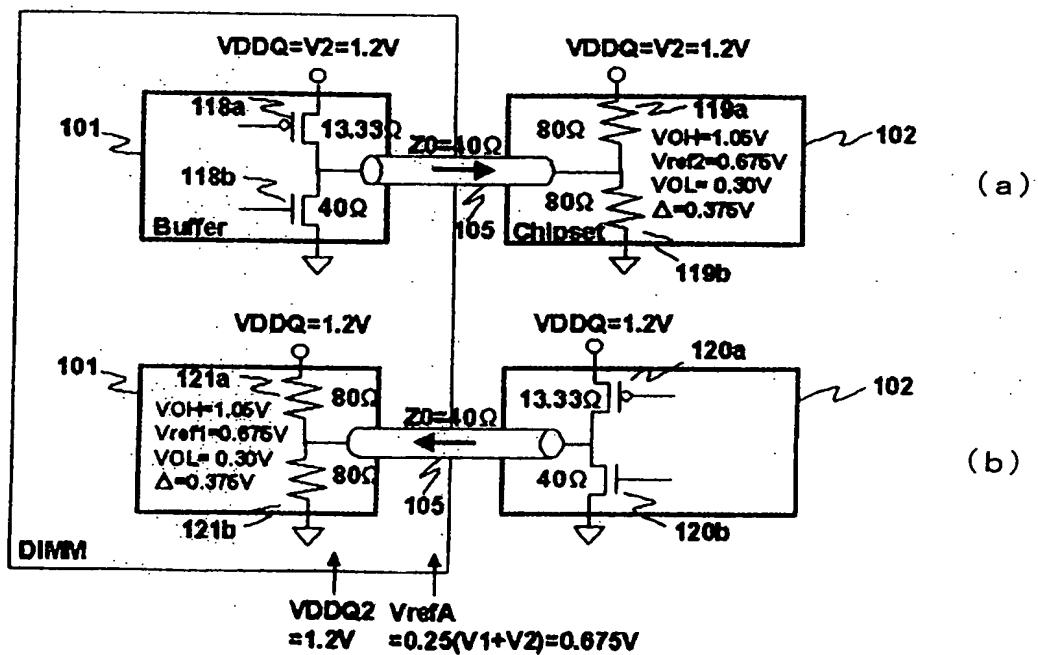
F I G. 4 1



F I G. 4 2



F I G. 4 3



F I G. 4 4

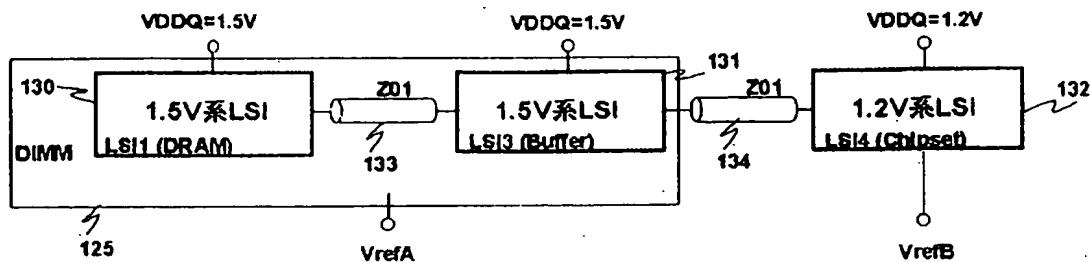


FIG. 45

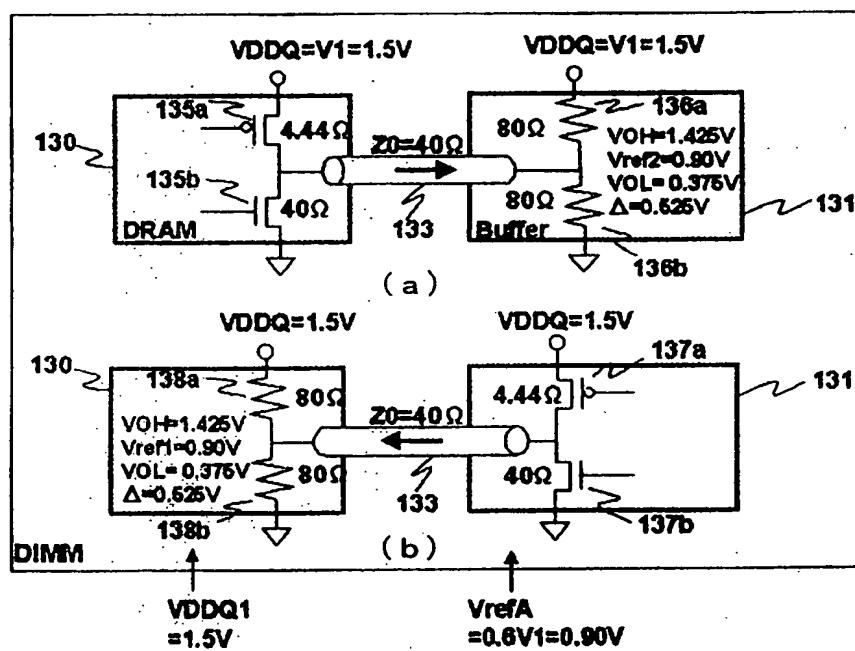
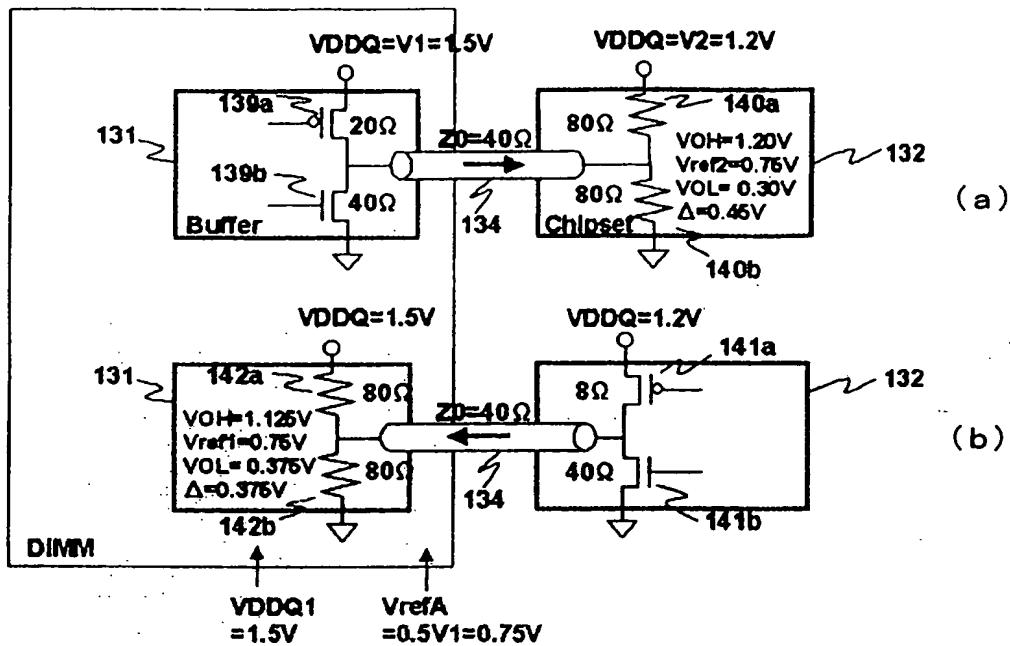
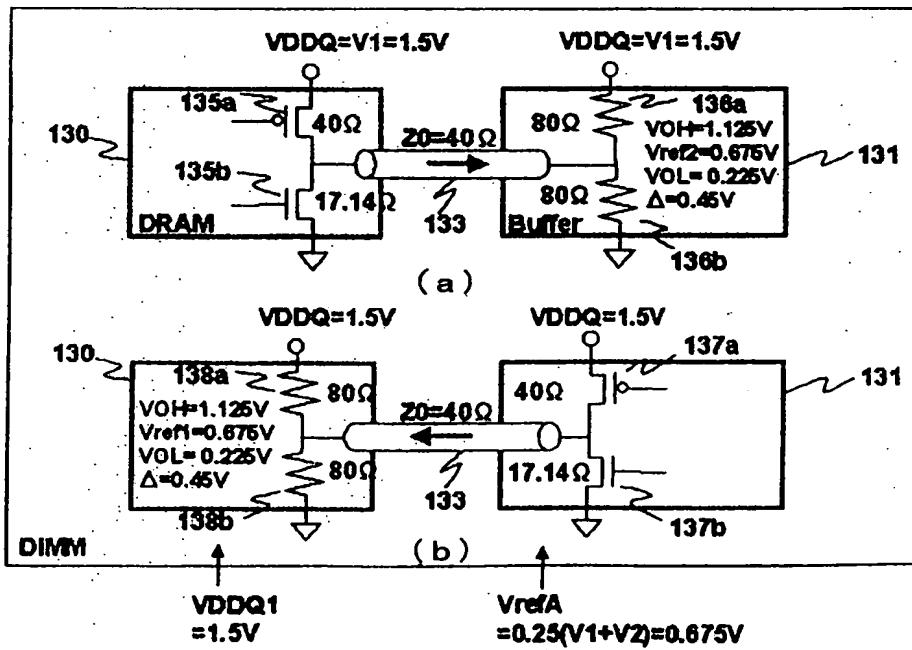
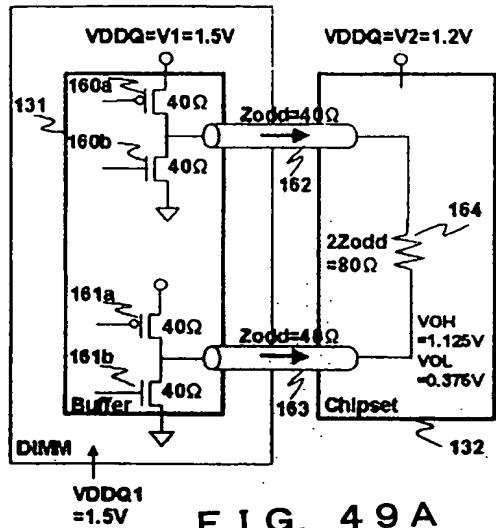


FIG. 46

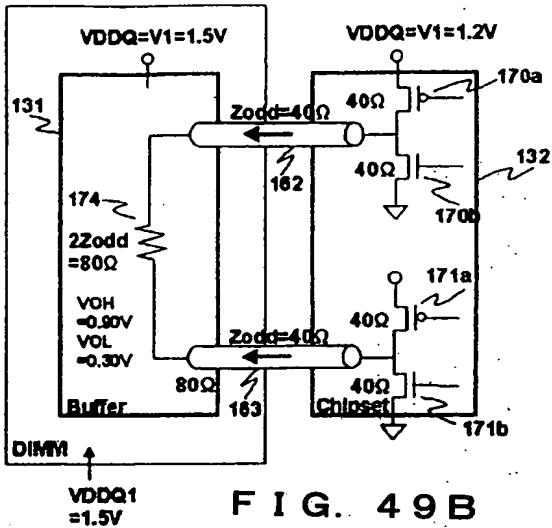


F I G. 4 7

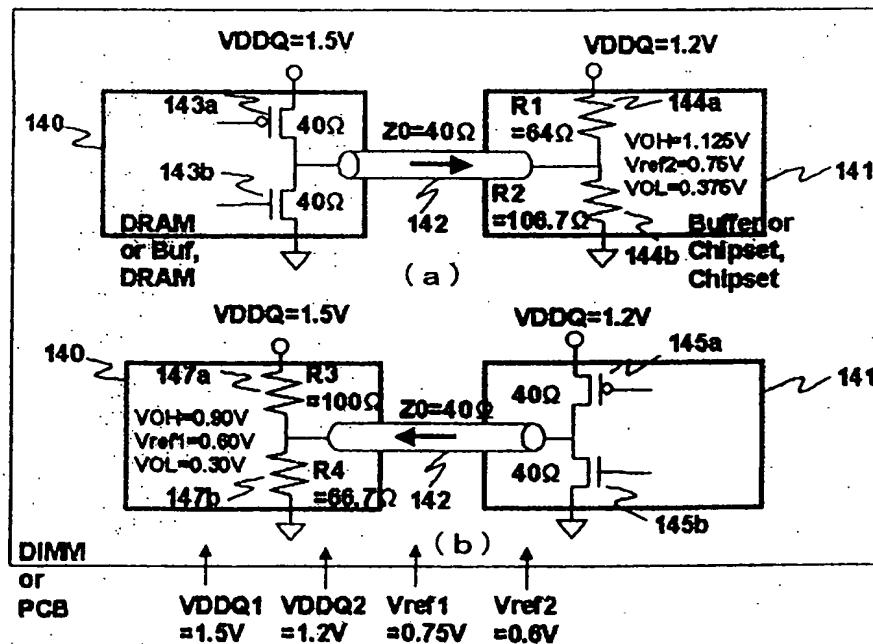




F I G. 49 A

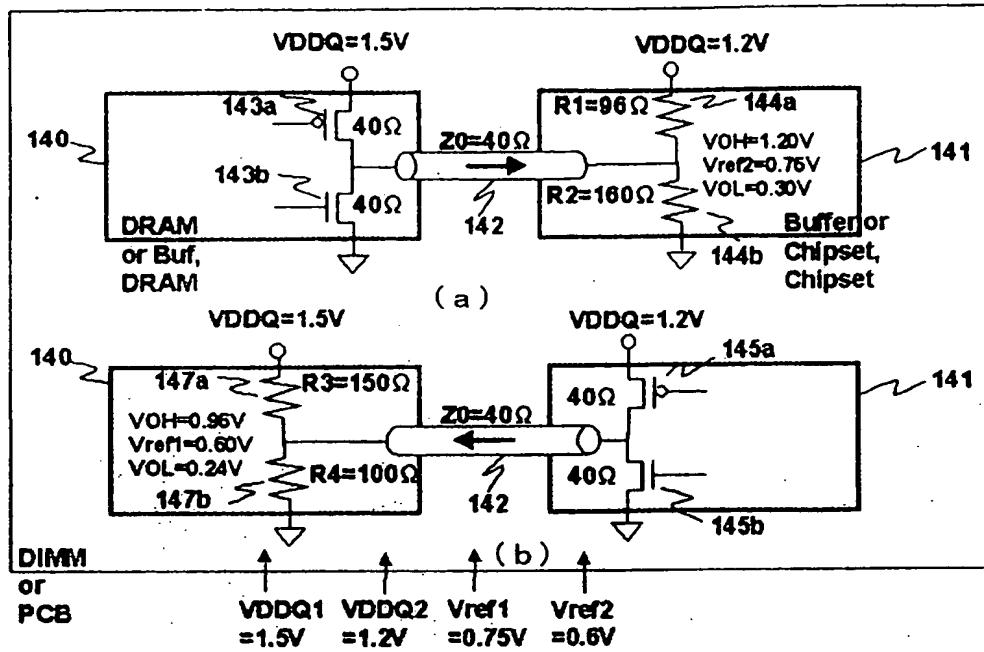


F I G. 49 B



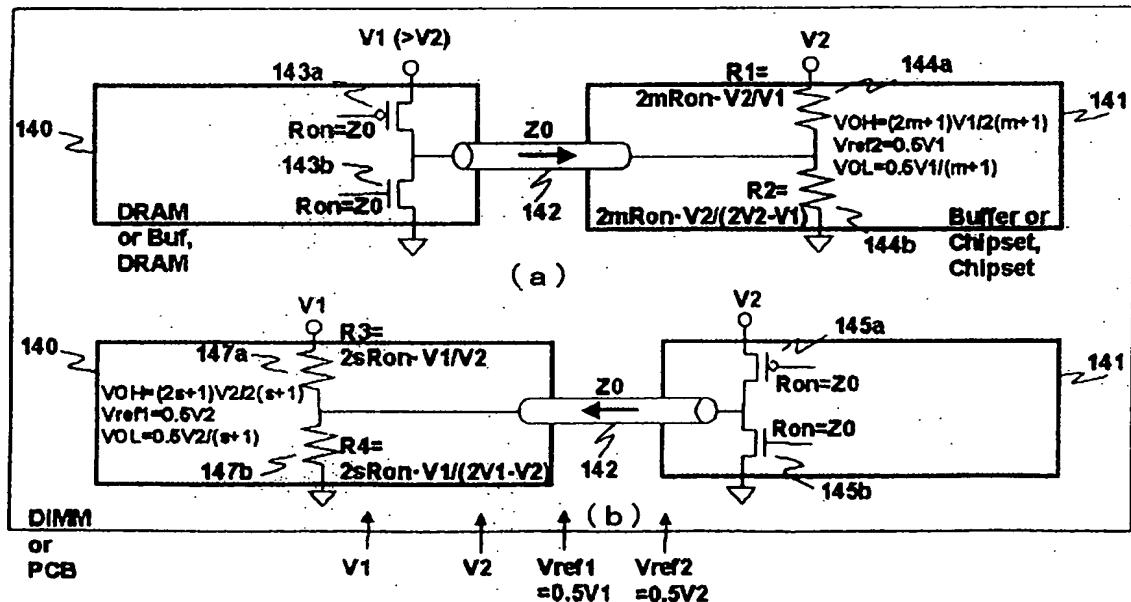
$$m = (R1//R2)/Z0 = s = (R3//R4)/Z0 = 1.0$$

F I G. 50



$$m = (R_1 // R_2) / Z_0 = s = (R_3 // R_4) / Z_0 = 1.5$$

F I G. 5 1



$$m = (R_1 // R_2) / Z_0$$

$$s = (R_3 // R_4) / Z_0$$

F I G. 5 2

